CLAIMS

1. A method of synchronising the hop sequences of frequency hopping radio transceivers, comprising transmitting from a first transceiver a first message at least once on each of a first plurality of radio channels selected sequentially according to a first sequence at a first rate, receiving in a second transceiver on simultaneous combinations of radio channels selected sequentially from a second plurality of radio channels according to a second sequence at a second rate, wherein the first and second plurality of radio channels have at least partial commonality, and in response to receiving at the second transceiver the first message on any of the second plurality of radio channels, transmitting from the second transceiver a second message and aligning the hop sequences of the first and second transceivers.

2. A method as claimed in claim 1, wherein the simultaneous combinations of radio channels comprise simultaneous combinations of two radio channels.

3. A method as claimed in claim 2, wherein the simultaneous combinations of two channels comprise channels selected from the second sequence and from positions in the second sequence separated by around half the period of the second sequence.

4. A method as claimed in claim 1, further comprising a receiver of the second transceiver mixing N (N>2) radio channels to respective IF frequencies, tuning each of a plurality less than N of IF filters to selected ones of the IF frequencies corresponding to one of the simultaneous combinations of radio channels, receiving the first message via any of the IF filters, and demodulating the first message thereby received.

5. A method as claimed in claim any of claims 1 to 4, further comprising switching the second transceiver into a single-channel-at-a-time reception mode in response to receiving the first message.

6. A radio receiver for use in the method claimed in claim 1, comprising means for frequency hopping through a sequence of radio channels, means for simultaneous reception on a plurality of radio channels, means for demodulating a first message received on any of the plurality of radio channels, and means for transmitting a second message in response to receiving the first message.

7. A radio receiver as claimed in claim 6, comprising a front end capable of receiving a radio signal on each of N (N>2) radio channels simultaneously, means for mixing simultaneously each of the N radio signals to respective IF frequencies, a plurality less than N of IF filters, means for tuning each of the plurality of IF filters to selected ones of the IF frequencies, and means for demodulating at least one signal received via at least one of the IF filters.

8. A radio receiver as claimed in claim 7, wherein at least one respective IF frequency is a low IF.

9. A radio receiver as claimed in claim 8, wherein the IF filter tuned to the at least one low IF is a polyphase filter.

10. A radio receiver as claimed in claim 8 or 9, wherein at least one signal received via the at least one low IF is de-rotated to zero frequency prior to demodulation.

11. A radio receiver as claimed in claim 7, wherein at least one respective IF frequency is zero.

12. A radio receiver as claimed in claim 6 or 7, comprising control means operable to invoke a single-channel-at-a-time reception mode in response to receiving a predetermined message.

13. A radio receiver as claimed in claim 6 or 7, further comprising control means for selecting for further processing a signal from among a plurality of simultaneously received signals.

14. An integrated circuit comprising a receiver as claimed in any of claims 6 to 13.

15. A transceiver comprising a receiver as claimed in any of claims 6 to 13.

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